

What Is Claimed Are:

1. An electronic ballast having a photocell circuit unit 100, a DC transformation unit 200 and a CF lamp driving circuit unit 400, being characterized in that the CF lamp driving circuit unit 400 comprises:
 - a voltage divider 401 for dividing a DC power supplied from the DC transformation unit 200 into a lamp power and a circuit driving power;
 - 10 field effect transistors Q1 and Q2 for controlling a voltage of the circuit driving power supplied from the voltage divider 401 to provide it as a voltage for high frequency oscillation;
 - 15 a resistor R12, and diodes D7, D8 and D9 provided at the front stage of the field effect transistors Q1 and Q2, for preventing a voltage higher than a predetermined voltage from being applied to the field effect transistors Q1 and Q2;
 - 20 a triac TA2 for preventing line surge from being applied to the gates of the field effect transistors Q1 and Q2;
 - Zenor diodes D12 and D13 for making the voltage through the field effect transistors Q1 and Q2 a constant voltage;
 - 25 a plurality of oscillation coils L3 ~ L5 that oscillate at high frequency according to the constant voltage produced by the Zener diodes D12 and D13 to generate a high frequency (25Khz ~ 30Khz);
 - 30 a bulb BULB for receiving the high frequency generated by the oscillation coils L3 and L4 through a choke coil CT to turn on the CF lamp; and
 - diodes D14 and D15 and condensers C10 and C11 connected to one side of the bulb BULB, for removing a

surge voltage occurring when the lamp is connected to the socket in order to protect the lamp and the socket.

2. The electronic ballast claimed in claim 1,
5 wherein the voltage divider 401 comprises a first diode D5 and a first condenser C6 connected to the output terminal of the DC transformation unit 200, for supplying the circuit driving power, and a second diode D6 and a second condenser C8 connected to the output terminal of the DC
10 transformation unit 200, for preventing the lamp power from being introduced to the driving circuit side.

3. An electronic ballast having a power supply 601, a power supply unit 610, and a DC transformation and
15 boosting unit 700, being characterized in that it comprises:

a lamp driving unit 800 that oscillates according to a power supplied from the DC transformation and boosting unit 700 to selectively turn on a plurality of lamps
20 (fluorescent lamp, CF lamp); and

anti-overheating unit 900 for instantly bypassing a high voltage when the lamp is turned on by a lamp driving unit 800 in order to prevent over-heating of a bulb.

25 4. The electronic ballast claimed in claim 3,
wherein the lamp driving unit 800 comprises:

field effect transistors T1 and T2 for controlling the voltage supplied from the DC transformation and boosting unit 700 to supply the voltage for high frequency
30 oscillation;

resistors R11 and R12 and diodes D5 ~ D7 provided at the front stage of the field effect transistors T1 and T2, for preventing a voltage higher than a predetermined

voltage from being applied to the field effect transistors T1 and T2;

5 Zener diodes ZD1 and ZD2 for making the voltage through the field effect transistors T1 and T2 a constant voltage;

 a plurality of oscillation coils L1 ~ L3 that oscillate at high frequency according to the constant voltage from the Zener diodes ZD1 and ZD2 to generate a high frequency;

10 a plurality of bulbs BULB1 and BULB2 for using the high frequency from the oscillation coils L1 ~ L2 through choke coils CT1 and CT2 to selectively turn on a plurality of lamps (fluorescent lamp, CF lamp, etc.); and

15 a plurality of diodes D10, D11, D15 and D16 and condensers C11, C12, C14 and C15, which are connected between the oscillation coil L2 and the plurality of the bulbs BULB1 and BULB2, for offsetting a surge voltage occurring when the lamp is connected to the socket in order to protect the lamp and the socket.

20

 5. The electronic ballast claimed in claim 3, wherein the anti-overheating unit 900 comprises an inductance L5 and a condenser C20 that instantly amplify the voltage and current to bypass the voltage and current 25 to the rear stage, when the lamp is turned on.